Geoduck Monitoring Conference

August 5-6, 2002 Anchorage Alaska

With the goal of making changes to the state's biotoxin monitoring plan in order to increase the chances that geoduck harvested in Alaska could be sold in the live market, a meeting was held in Anchorage on August 5 and 6, 2002. Steve Grabacki, Greystar Pacific Seafood, Ltd., facilitated the meeting.

This report contains the results of that meeting. The geoduck monitoring program, which was an outgrowth of the meeting, is attached as is a Memorandum of Agreement between the Southeast Alaska Regional Dive Fisheries Association, the Department of Fish and Game, and the Department of Environmental Conservation.

Conference Participants:

Dr. Sandra Shumway, Department of Marine Sciences, University of Connecticut
Dr. Sherwood Hall, Seafood Laboratory Chief, U.S. Food and Drug Administration
Dr. John Wekell, Northwest Fisheries Science Center, NOAA
Jennifer Tebaldi, Shellfish Program, Washington State Department of Health
Julie Decker, Executive Director, Southeast Alaska Regional Dive Fisheries Association (SARDFA)
Casey Bakker, SARDFA Board Member
Steve LaCroix, SARDFA Processor Board Member
Dustin Winter, Metlakatla Fish and Wildlife
Ray RaLonde, Aquaculture Specialist, Alaska Marine Advisory Program
Ken Moore, Executive Director, Interstate Shellfish Sanitation Program
Brenda Holman, Pacific Regional Director, U.S. Food and Drug Administration
Tim Sample, Regional Shellfish Specialist, U.S. Food and Drug Administration
Robert Chaney, Alaska Science and Technology Foundation
Glenn Haight, Alaska Department of Community and Economic Development (DCED)
Kurt Fredriksson, Deputy Commissioner, Department of Environmental Conservation (DEC)
Janice Adair, Director, Environmental Health Division, DEC
Dick Barrett, Seafood and Food Safety Lab Manager, DEC
Nancy Napolilli, Food Safety and Sanitation Program Manager, DEC
Manny Soares, Chief, Seafood Section, DEC
Mike Ostasz, Shellfish Specialist, DEC
Chris Allison, Supervising Microbiologist Seafood and Food Safety Lab, DEC
Collette Bentz, Microbiologist, Seafood and Food Safety Lab, DEC
Rudy Tsukada, DCED

Although there was an agenda, it was not followed. Instead, there was a free ranging discussion where many important points were made and ultimately the basics of a new monitoring program were agreed upon.

Areas Where There Was General Agreement:

Harvesters need to know if they will be able to sell their product live before they harvest it.

It is important to keep geoducks with high PSP out of the market and to avoid recalls.

The 80 ug/100 g standard is a whole animal PSP standard. Washington, British Columbia and Alaska test just the visceral ball, where PSP is known to concentrate.

As a result, allowing product to remain in commerce if it does not exceed 120 ug/100 g as is done in the State of Washington is acceptable and is protective of public health.

People do eat the visceral ball separate from the meat, most likely in soups.

There are many differences between Alaska and Washington relative to how PSP is monitored:

- Washington has areas with no history of PSP.
- Washington monitors its entire coastline for PSP.
- Several species of shellfish are harvested from areas where geoduck are also harvested, allowing Washington to monitor PSP activity even if geoduck is not being harvested or tested.
- Washington does not allow geoduck to be processed; it is a live sale harvest only.
- Washington has had geoduck recalls every year since they changed to testing only the visceral ball; at the time of the meeting in 2002, there had been 7 geoduck recalls.
- Alaska is well known as an area with PSP problems.
- There are no shellfish harvest areas in Alaska known to be PSP free.

Testing three sets of three composited geoduck visceral balls is better than three individual geoducks or three geoducks composited into one sample, but it is virtually impossible and financial impractical to establish a monitoring program that is statistically valid.

Trend data will tell you three things: (1) where you have PSP; (2) its seasonality; (3) how often you should monitor for PSP during harvest.

It is important to do pre-harvest PSP monitoring over time and use the data to:

- generate historical data about PSP levels;
- give harvesters a better sense of their ability to sell live geoduck when the season opens; and
- allow SARDFA and the Alaska Department of Fish and Game (ADFG) to pick the best harvest time and/or areas for live sales.

It is also important to do pre-harvest PSP testing shortly before harvesting is scheduled to begin. This will tell you what the PSP levels are immediately prior to harvesting. This will also allow the value of the resource to be maximized by giving processors adequate time to clear a space for live Alaska geoduck in the world geoduck market.

Both historical and pre-harvest data are needed to lower risk of recalls.

Historical data have shown that marine toxins can be low for many years and then suddenly spike.

Whatever monitoring data is gathered needs to be credible so it can be used to determine the monitoring plan for a given area.

Each area is likely to have its own “during harvest” monitoring frequency if the historical data indicates the area has relatively low levels of PSP.

The overall monitoring plan should be the same for “old” areas as for new areas. However, processors should still be able to opt to do lot sampling as it works in some places quite well, such as Sitka.

Because of weather and other fishing seasons, geoduck harvesting can really only happen from November through May.

Harvesters and processors could use the MIST Alert test in the field to make their own decisions regarding the feasibility of live sales. However, because the test only shows the absence or presence of PSP, not whether levels are increasing or decreasing, it should not be used for monitoring purposes. Since it is not an approved test method, it cannot be used for regulatory purposes.

DEC will post PSP results on the Internet without any sort of password protection. Results will be posted immediately after results are known and entered into the database, which will automatically update the web site.

There was a great deal of discussion as to how to divide the DEC-certified areas into manageable subareas. At the conclusion of the meeting, it was agreed a system of grids would be created. However, because the DEC-certified areas are so large, SARDFA felt the grids would not be representative of their harvesting areas thus, they proposed and the department agreed to use the ADFG-identified fishing areas as the basis to determine where PSP monitoring would take place.

Next steps:

1. DEC will contact FDA, requesting that they change the timing of Shellfish Micro Quality Assurance Check samples because March is currently when harvesters need samples processed quickly.

2. SARFDA, DEC and ADFG will work together to:
    a. Locate funding to supplement SARDFA's grant funds for the monitoring to begin in 2002.
    b. Support efforts by DEC to obtain a capital budget request to implement the monitoring program starting in 2003.
    c. Adjust closing time of harvest days. (Depending on the number of samples received by the Lab, harvesters probably won't have test results until 10am so will not be able to start harvesting until noon. Currently, the fishery closes at 3pm.)
    d. Plan on adjusting harvest season based on the results of this monitoring. (Trends should indicate certain times of the year that may be better than others for avoiding PSP – a so-called "window of opportunity.")
    e. Avoid closing entire ADFG fishery site when at least one subarea within the fishery is below 80 ug/100 g.
    f. Make sure harvesting occurs only in the subareas that have been tested for PSP.

Research Needs:

In order to further the chances of obtaining research funds, the group discussed what research is needed to better understand geoduck and PSP. The agreed upon list includes:

- Is there a correlation between depth of harvest and PSP levels (Kelly Curtis thesis).
- Rate of depuration – once toxic, how long will it take geoduck to deplete the toxin to below the regulatory level.
- Effect of harvest method – does the method used to harvest geoduck stir up cysts in the sediment, essentially retoxifying the animals and if so, how long does that take.
- Do size and/or color of clams make any difference in PSP levels.
- Distribution – can PSP distribution patterns be established in a given harvest area.

- Sediment testing – is there a correlation between PSP cysts in the sediment and PSP levels in the geoduck.

Revised Monitoring Plan for Geoduck
November 2002 – May 2003

Unless a processor opts to follow the lot sampling program, this monitoring plan will be used for commercially harvested geoduck beginning November, 2002.

Definitions:

"Area" means the area certified by DEC under the National Shellfish Sanitation Program
"Fishery" means the area opened by ADFG for geoduck harvesting
"Subarea" means those locations within the fishery identified as having sufficient geoduck stocks to support a commercial harvest within the Fishery.

Each sample set will consist of the visceral balls from three individual geoduck blended together. Each test will consist of three sample sets, for a total of 9 animals, from each fishery.

Pre-harvest monitoring: ADFG and SARDFA will

1. identify the fishery within each area where harvesting may take place; and
2. identify the subareas within each fishery where geoduck will be harvest.

For calendar year 2003, the area, fishery and subareas are incorporated as Attachment One to this monitoring plan.

Each fishery where harvesting is being considered or planned shall be tested once per month beginning in November through May 2003.

A minimum of three sample sets will be tested from each fishery. Ideally, one sample set will be taken from each subarea. The latitude and longitude where geoducks are collected for sampling will be noted by SARDFA and provided to DEC with the samples. SARDFA will endeavor to collect samples from each end and the middle of the subareas in order to get a good distribution from within the subarea.

As of January 1, 2003, when the monthly test results from a fishery or subarea are clean, testing of the fishery will increase to once per week. SARDFA may decide that, because of the levels being found, it is not likely the geoduck will be able to enter the live market. If that decision is made, monitoring will remain monthly. However, SARDFA can opt to take a fishery off the monitoring list because of consistently high PSP levels. In that case, any geoduck harvested for commercial sales from that fishery will be subject to DEC's lot sampling program.

After the second weekly test results are clean, ADFG will issue a news release opening the fishery/subarea in 7 days. The final pre-harvest samples will be collected two days before harvest is scheduled to begin. All three consecutive weekly samples taken prior to harvesting must test below 80 ug/100 g in order for the monitoring plan during harvesting below to take place.

Example of sampling:

November:	one month sample
December:	one month sample
January/first week:	one month sample/first weekly sample

January/second week: second weekly sample
January/third week: two days before harvesting sample
If all three weekly samples are below 80 ug/100 g, harvesting for live sales begins.

Monitoring During Harvest for Live Sales

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
No harvest; Sample in morning	No harvesting until results received*	Harvest	Harvest And **Sample in morning**	No harvesting until results received*	Harvest	Harvest
If below 80 ug, harvest through Wednesday. If at or above 80 ug, geoduck harvested through Wednesday cannot be sold live. Two clean samples taken at least 2 days apart will be required before live sales begin.			If below 80 ug, harvest through Saturday. If at or above 80, geoduck harvested through Saturday cannot be sold live. Two clean samples taken at least 2 days apart will be required before live sales begin again. If below 120 ug, harvest from Monday through Wednesday can stay in commerce but no live sales through Thursday through Saturday. If at or above 120 ug, harvest from Monday through Wednesday may be recalled depending on level; harvest from Thursday through Saturday cannnot be sold live.			

*It is possible that the tests results will be available by 10 AM the day after the samples are taken. Geoduck harvested on those days, if any, are included with the two days that follow, i.e. Monday afternoon, Tuesday and Wednesday is one block. Thursday afternoon, Friday and Saturday is another block. No harvesting except for sample collection would take place on Sunday.

Sampling will only be required on the last harvest day of the season for that fishery under two scenarios:

1) it is a regular sample day; or
2) PSP levels during the harvest period appear to be increasing and in the best professional judgment of the department, it is possible that the levels during the last two days of harvest could be at or above 120 ug/100 g.

SARDFA will be responsible for all sample collection and transportation to the Seafood and Food Safety Lab, including preharvest samples, following "Instructions for Sending Geoduck PSP Samples," which are incorporated at Attachment 2 to this monitoring plan.

During June and July of each year, DEC will evaluate the PSP data generated under this monitoring plan to make decisions regarding changes to it for the upcoming monitoring/harvesting period. Any recommended changes will be discussed with SARDFA prior to implementation. If there are disagreements with the interpretation of the data, DEC will contact the experts who attended the 2002 Conference for assistance.